

Title (en)  
FUZZY CONTROLS OF TOWED OBJECTS

Title (de)  
UNSCHARFE STEUERUNGEN FÜR GEZOGENE OBJEKTE

Title (fr)  
COMMANDES FLOUES D'OBJETS REMORQUÉS

Publication  
**EP 2929429 A4 20161123 (EN)**

Application  
**EP 13860251 A 20131203**

Priority  
• US 201213705253 A 20121205  
• US 201213716850 A 20121217  
• US 2013072840 W 20131203

Abstract (en)  
[origin: WO2014089054A1] A fuzzy logic controller for controlling towed objects includes comprises a winch controller to control extension or retraction of a tow cable based on a control signal. A fuzzy logic controller controls a speed at which the tow cable is extended or retracted. The fuzzy logic controller includes an altitude controller storing a membership function defining ranges for a delta altitude variable and determines an altitude control signal based on the range for the measured delta altitude variable. A gain controller stores respective membership functions defining ranges for speed, heading rate, and cable length variables and determines a gain control signal based on the ranges for the determined speed, heading rate, and cable length variables. A command controller determines the control signal based on the gain control signal and the altitude control signal.

IPC 8 full level  
**G05B 13/02** (2006.01); **G06F 7/00** (2006.01)

CPC (source: EP US)  
**G05B 13/024** (2013.01 - EP US); **G05B 15/02** (2013.01 - EP US)

Citation (search report)  
• [A] CA 2137846 C 19990316 - DEPARTMENT OF FISHERIES AND OC [CA], et al  
• [A] FR 2735457 A1 19961220 - TEUPEN MASCHINENBAUGESELLSCHAF [DE]  
• [I] CHUN-WOO LEE ET AL: "Simplified trawl system modeling and design of a depth control system using fuzzy logic", FISHERIES RESEARCH, vol. 53, no. 1, 1 September 2001 (2001-09-01), AMSTERDAM, NL, pages 83 - 94, XP055259861, ISSN: 0165-7836, DOI: 10.1016/S0165-7836(00)00264-2  
• See references of WO 2014089054A1

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CN109188898A

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DOCDB simple family (publication)  
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**US 2013072840 W 20131203**; AU 2013356247 A 20131203; CA 2893753 A 20131203; EP 13860251 A 20131203; HK 15111864 A 20151202; JP 2015546557 A 20131203; US 201213716850 A 20121217